

# **Virginia's New Focus on System Operations and Management**

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# Costs of Congestion:

- Billions of Hours Wasted
- Air Pollution
- Wasted Fuel
- Hampers Economic Growth
- Frustration/Road Rage
- Quality of Life
- Secondary Crashes



# Congestion Overview

Type of Delay	Contribution to total delay	Cause of Delay	Basic Mitigation Strategy
Recurring Causes	50-60%	Mainline Capacity shortfalls	<div> <div></div> <div>Increased Capacity</div> </div>
		Interchange Bottlenecks	
		Weave & merge friction	
		Poor Signal Timing	
Non-Recurring Causes	40-50%	Breakdowns & Crashes	<div> <div></div> <div>Operations &amp; Management</div> </div>
		Construction work zones	
		Weather	
		Vehicle mix	
		Special events	

# Approaches to Relieving congestion

## Fight the war on all fronts!



# Virginia Congestion Management Program

- Freeway Management
- Arterial Management
- Demand Management
- Coordination & Integration
- Performance Monitoring and Research



# Virginia Freeway Management

## System Management Vision

- Existing Smart Traffic Centers
- Planned Smart Traffic Centers
- Statewide TEOC
- Interim Smart Traffic Center



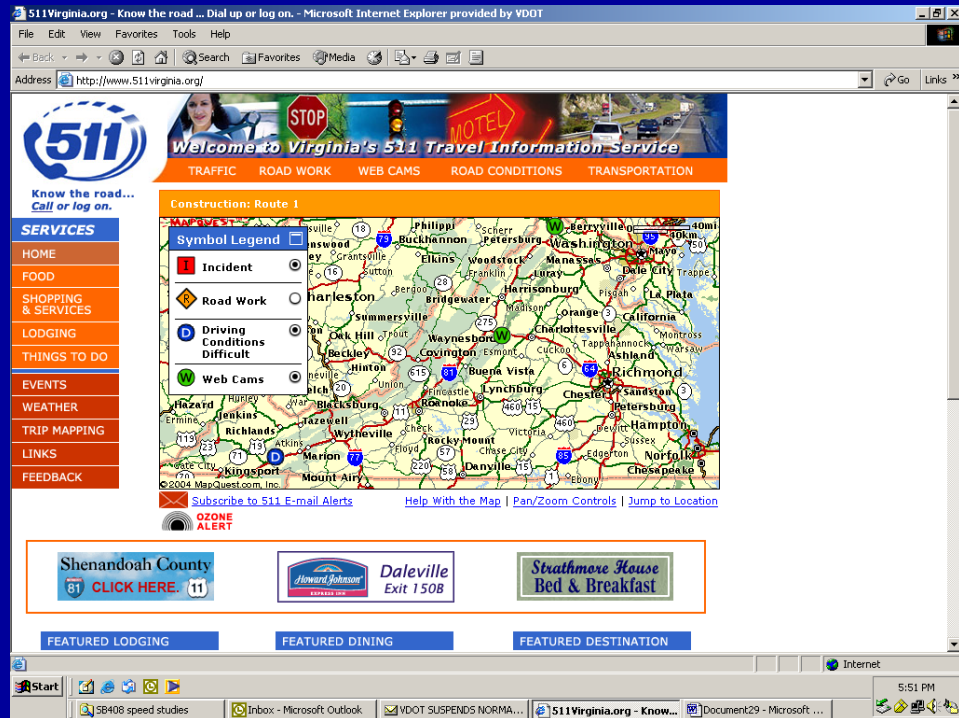
# Virginia Arterial Management

- **Advanced Traffic Signal Systems**
  - Nova's Smart Traffic Signal System
  - Local Jurisdictions upgraded
- **Electronic Signs on arterials approaching interstates**



# Virginia Demand Management

- Public Transit (bus and train)
- Car/Van Pool Services
- Park n Ride Lots
- Traveler Information – website, 511, etc.



# Demand Management

## Continued

- HOV lanes and networks
- Value pricing – HOT lanes



# Virginia Coordination

- **Statewide Incident Management Committee**
- **Inter-Jurisdictional Signal Coordination**
- **ITS Steering Committees**



# Virginia Performance Monitoring and Research

- Quantify levels of congestion and system performance.
- Partnering with Research Institutions to develop innovations to reduce congestion.
- \$1.5 M dedicated to Systems Operations research in FY2005



# Future Direction



# Systems Operations Management

- Incidence response and management
- Incidence detection and system surveillance
- Safety Service Patrols
- Smart Traffic Centers and all associated activities
- Traffic monitoring devices and control
- Variable messages
- Ramp metering

# Systems Operations Management

## Continued

- Traveler information
- Arterial traffic operations
- Signal optimization
- Road Weather Information Systems
- Tunnel and bridge special operations
- Special events
- Traditional traffic engineering—signs, signals, markings, lighting

# Systems Operations Management

## Continued

- Work Zone traffic management in real time
- System safety
- HOV operations and High Occupancy Toll Lane operations
- Real time pricing
- Snow and Ice Control---these events are technically “incidents”
- Technology applications focused on real time control and management systems

# Chief of Systems Operations

- **Develop vision statement**
- **Establish basic performance measures**
- **Develop detailed business plan**
  - Prioritize operations research needs
  - Action plans – both statewide and district specific
  - Functional re-alignment of staff

# **An Operations Culture**

## **20<sup>th</sup> Century**

- **Public Works (output)**
- **Project focused**
- **Our jurisdiction**
- **8-5**
- **Reactive**
- **Business as Usual**
- **Do it our way**

## **21<sup>st</sup> Century**

- **Mobility (outcomes)**
- **Customer-oriented**
- **The system**
- **24X7**
- **Proactive**
- **Performance Driven**
- **Partnerships**



# Questions?



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